

of the decoding unit time if only the voice packet P1 of Fig. 2 constitutes the queue. This means that the exhaustion of the voice packet has occurred.

The queue length detector 30 that has detected this exhaustion by the use of the detection signal D1 switches the control signal C2 from the inactive state to the active state and allows the complementary-packet inserting device 19 to produce and output the complementary packet PP.

The position where the complementary-packet-inserting device 19 inserts the complementary packet PP is the top position occupied by the voice packet P1.

In the above description of the operation, all voice packets of about 100 packets that constitute the queue are read as the scanning signal SC and are processed in a single run when the queue length exceeds the higher threshold TH. However, about 100 voice packets may be divided and processed if there is a need to secure processing time in the packet deleting device 20 and the voice presence/absence judging device 21.

For example, the processing of the packet deleting device 20 may be executed such that a spare threshold ST is set at a lower position than the higher threshold TH (e.g., position where the queue length is about 60 packets), and, when the queue length exceeds the spare threshold ST, all of the voice packets or a part thereof that constitute the queue at that time are read as the scanning signal SC so as to obtain its judgment result DC, and, when the queue

length exceeds the higher threshold TH, a judgment result DC for only the voice packet that has not yet obtained a judgment result DC is obtained.

Alternatively, without setting such a spare threshold ST, a voice presence/absence judgment may be made when processing capability has room, and its judgment result DC may be stored regardless of the queue length.

However, since the deletion of the voice packet is not carried out if the queue length does not exceed the higher threshold TH, the obtained judgment result DC loses the significance of the existence and becomes useless when a corresponding voice packet is read as the packet PO. Therefore, from the viewpoint of processing efficiency, it is an excellent solution to make a voice presence/absence judgment when the queue length actually exceeds the higher threshold TH or when the possibility of exceeding it rises fully, and, additionally, processing capability has room.

(A-3) Effect of the first embodiment

According to this embodiment, since the positions of voice packets to be deleted can be dispersed into a queue, a more natural, higher-quality decoded voice can be obtained than in a case where voice-absence packets at specific positions (e.g., the aforementioned top position) are continuously deleted.

Further, if a voice-absence packet is selected while paying attention only to the voice packet occupying the top position, a dangerous possibility where the first sound of

a conversation will be regarded as voice absence by mistake because of a vague relationship with the subsequent voice packet exists. However, according to this embodiment, since a voice packet at a time-position subsequent to the top position is analyzed and thereafter a voice packet to be deleted is selected, the first sound can be easily found, and the first sound can be prevented from being deleted by mistake by carrying out a process of, for example, not deleting a voice packet located immediately before a voice packet judged as voice presence on a queue even if the voice packet located immediately before it is judged as voice absence.

Further, in the case where deletion is carried out at the top position, a voice packet at the top position must be decoded at once if it is not deleted, and therefore a voice presence/absence judgment, a judgment whether to be deleted or not, a decoding process, etc., must be intensively carried out in a short time. This time concentration causes the inevitable occurrence of a load. However, according to this embodiment, since it is easy to execute the processing in the voice communications device while delaying or hastening it and, additionally, dispersing it, the processing of the packet deleting device 20 and the voice presence/absence judging device 21 can be carried out during a low-load period during which, for example, the processing of the voice decoder 17 that has high priority is not carried out, and the load resulting